

318706

STIC-ENC1600/2900

From: STIC-ENC1600/2900@uspto.gov
 Sent: Tuesday, January 05, 2010 12:59 PM
 To: Para, Annette
 Cc: STIC-ENC1600/2900
 Subject: Confirmation Receipt 1600 Search Request - 10588,767

This is an automated email confirming that your 1600 Search Request has been received by STIC's ENC1600 <<http://uspto-a-patfr-2/sirsapps/stic/npl/npltml600.htm>> .

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Requester

Name: PARA, ANNETTE H <<http://es.uspto.gov/calculator/runEmployeeQry.do?action=ListEmployeeByEmpIdempNo=78173>>
 Organization: TC 1600
 Act Unit: 1661
 Employee Number:
 Office Location: REM-3E88
 Phone Number: (571)272-0982
 Email: annette.para@uspto.gov <<mailto:annette.para@uspto.gov?Subject=1600SearchRequest>>

Request Detail

Attachment: No

Case/Application number: 10/588,767 PALM <http://expoweb1:8001/cgi-bin/expa/GenInfo/squery.pl?APPL_ID=10/588,767>
 Priority App. Filing Date: 02/09/2005
 Format for Search Results: EMAIL

Warning of unusual acronyms or initialisms:

*****	*****	*****
SEARCHER:	Type of Search	Verifiers/revs where applicable
Searcher Name:	SA #:	STN:
Date Searcher Picked Up:	SA:	SEARCH:
Date completed:	Search/Transit:	SEARCH/TRANSIT:
Searcher Prep Time:	Director's #:	SEARCH/TRANSIT:
Online Time:	Inventor:	SEARCH/TRANSIT:
		OTHER (Specify):

INVENTOR SEARCH

=> d ibib abs hitstr 18 1

L8 ANSWER 1 OF 1 HCAPLUS COPYRIGHT 2010 ACS on STN

ACCESSION NUMBER: 2005:731269 HCAPLUS Full-text

DOCUMENT NUMBER: 143:193449

TITLE: Strigolactones as development stimulants for
arbuscular mycorrhizaINVENTOR(S): Becard, Guillaume; Roux, Christophe
; Sejalon, Delmas Nathalie; Puech,
Virginie; Roy, SebastienPATENT ASSIGNEE(S): Universite Paul Sabatier Toulouse III, Fr.; Centre
National De La Recherche Scientifique CNRS

SOURCE: Fr. Demande, 27 pp.

CODEN: FRXXBL

DOCUMENT TYPE: Patent

LANGUAGE: French

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
FR 2865897	A1	20050812	FR 2004-1282	20040210
FR 2865897	B1	20060609		
CA 2555362	A1	20050825	CA 2005-2555362	20050209
WO 2005077177	A2	20050825	WO 2005-FR284	20050209
WO 2005077177	A3	20051208		
W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW, SM				
RW: BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IS, IT, LT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG				
EP 1713333	A2	20061025	EP 2005-717585	20050209
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, FI, RO, CY, TR, BG, CZ, EE, HU, PL, SK, IS				
US 20080318773	A1	20081225	US 2006-588767	20060808
PRIORITY APPLN. INFO.:			FR 2004-1282	A 20040210
			WO 2005-FR284	W 20050209

ASSIGNMENT HISTORY FOR US PATENT AVAILABLE IN LSUS DISPLAY FORMAT

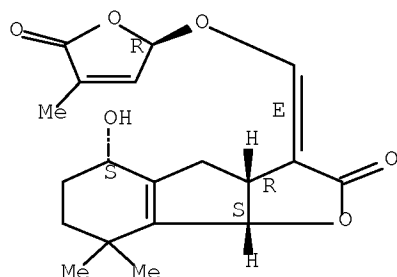
AB Strigolactones stimulate the growth and/or development of the arbuscular mycorrhiza (AM). These compds. are for example natural strigol, alectrol, sorgolactone, orobanchol, or their synthetic analogs GR7, GR24, Nijmegen-1, demethylsorgolactone. The invention allows for advanced techniques of mycorrhization aiming at optimizing inoculum production, the use of AM in agriculture, and intensification of the symbiotic interaction between AM and crops.

IT 11017-56-4, Strigol 76974-79-3, GR24
77035-56-4, GR7 141262-39-7, Sorgolactone
143572-84-3, Alectrol 159155-03-0, Nijmegen-1
185222-53-1 220493-65-2, Orbachol

RL: AGR (Agricultural use); BIOL (Biological study); USES (Uses)
(strigolactones as development stimulants for arbuscular mycorrhiza)

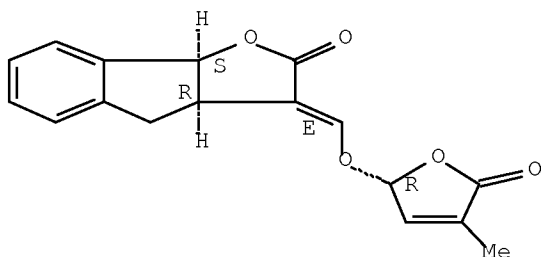
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 CN 2H-Indeno[1,2-b]furan-2-one, 3-[[[(2R)-2,5-dihydro-4-methyl-5-oxo-2-furanyl]oxy]methylene]-3,3a,4,5,6,7,8,8b-octahydro-5-hydroxy-8,8-dimethyl-, (3E,3aR,5S,8bS)- (CA INDEX NAME)

Absolute stereochemistry.
 Double bond geometry as shown.



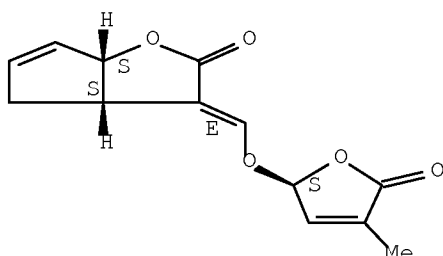
RN 76974-79-3 HCAPLUS
 CN 2H-Indeno[1,2-b]furan-2-one, 3-[[[(2R)-2,5-dihydro-4-methyl-5-oxo-2-furanyl]oxy]methylene]-3,3a,4,8b-tetrahydro-, (3E,3aR,8bS)-rel- (CA INDEX NAME)

Relative stereochemistry.
 Double bond geometry as shown.



RN 77035-56-4 HCAPLUS
 CN 2H-Cyclopenta[b]furan-2-one, 3-[[[(2S)-2,5-dihydro-4-methyl-5-oxo-2-furanyl]oxy]methylene]-3,3a,4,6a-tetrahydro-, (3E,3aS,6aS)- (CA INDEX NAME)

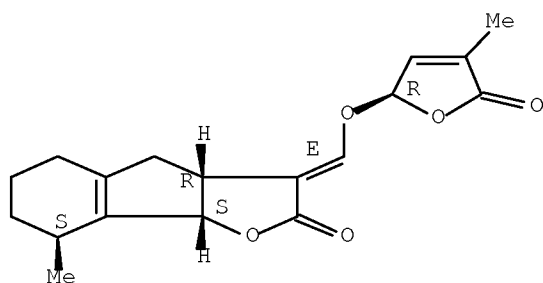
Absolute stereochemistry. Rotation (-).
 Double bond geometry as shown.



RN 141262-39-7 HCAPLUS

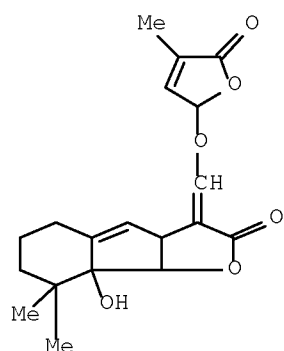
CN 2H-Indeno[1,2-b]furan-2-one, 3-[[[(2R)-2,5-dihydro-4-methyl-5-oxo-2-furanyl]oxy]methylene]-3,3a,4,5,6,7,8,8b-octahydro-8-methyl-, (3E,3aR,8S,8bS)- (CA INDEX NAME)

Absolute stereochemistry. Rotation (+).
Double bond geometry as shown.



RN 143572-84-3 HCAPLUS

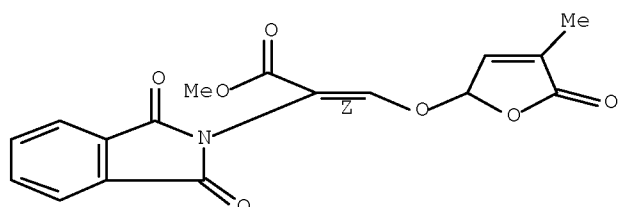
CN 2H-Indeno[1,2-b]furan-2-one, 4-(acetyloxy)-3-[[[(2R)-2,5-dihydro-4-methyl-5-oxo-2-furanyl]oxy]methylene]-3,3a,4,5,6,7,8,8b-octahydro-8,8-dimethyl-, (3E,3aS,4S,8bS)- (CA INDEX NAME)



RN 159155-03-0 HCAPLUS

CN 2H-Isoindole-2-acetic acid, α -[[[(2,5-dihydro-4-methyl-5-oxo-2-furanyl)oxy]methylene]-1,3-dihydro-1,3-dioxo-, methyl ester, (α Z)- (CA INDEX NAME)

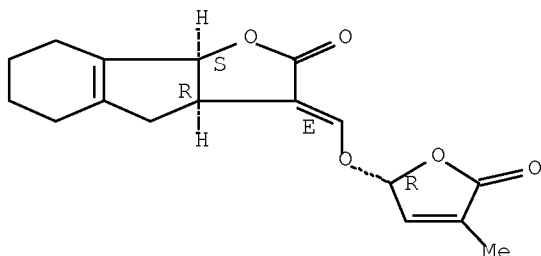
Double bond geometry as shown.



RN 185222-53-1 HCAPLUS

CN 2H-Indeno[1,2-b]furan-2-one, 3-[[[(2R)-2,5-dihydro-4-methyl-5-oxo-2-furanyl]oxy]methylene]-3,3a,4,5,6,7,8,8b-octahydro-, (3E,3aR,8bS)- (CA INDEX NAME)

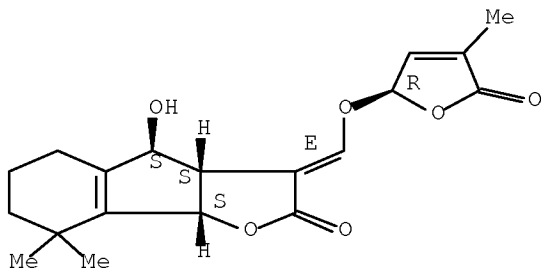
Absolute stereochemistry. Rotation (+).
Double bond geometry as shown.



RN 220493-65-2 HCAPLUS

CN 2H-Indeno[1,2-b]furan-2-one, 3-[[[(2R)-2,5-dihydro-4-methyl-5-oxo-2-furanyl]oxy]methylene]-3,3a,4,5,6,7,8,8b-octahydro-4-hydroxy-8,8-dimethyl-, (3E,3aS,4S,8bS)- (CA INDEX NAME)

Absolute stereochemistry. Rotation (+).
Double bond geometry as shown.



OS.CITING REF COUNT:	2	THERE ARE 2 CAPLUS RECORDS THAT CITE THIS RECORD (2 CITINGS)
REFERENCE COUNT:	6	THERE ARE 6 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

DISPLAY OF REQUESTED COMPOUND

=> d 112

L12 ANSWER 1 OF 1 REGISTRY COPYRIGHT 2010 ACS on STN

RN 76974-79-3 REGISTRY

ED Entered STN: 16 Nov 1984

CN 2H-Indeno[1,2-b]furan-2-one, 3-[[[(2R)-2,5-dihydro-4-methyl-5-oxo-2-furanyl]oxy]methylene]-3,3a,4,8b-tetrahydro-, (3E,3aR,8bS)-rel- (CA INDEX NAME)

OTHER CA INDEX NAMES:

CN 2H-Indeno[1,2-b]furan-2-one, 3-[[[(2,5-dihydro-4-methyl-5-oxo-2-furanyl)oxy]methylene]-3,3a,4,8b-tetrahydro-, [3E(R*),3aα,8bα]-(±)-

OTHER NAMES:

CN 2H-Indeno[1,2-b]furan-2-one, 3-[[[(2,5-dihydro-4-methyl-5-oxo-2-furanyl)oxy]methylene]-3,3a,4,8b-tetrahydro-, [3E(R*),3aα,8bα]-

CN GR 24

FS STEREOSEARCH

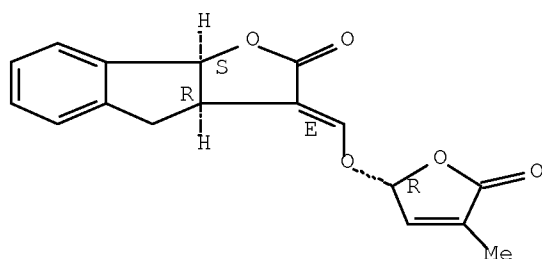
DR 78684-76-1

MF C17 H14 O5

LC STN Files: BEILSTEIN*, CA, CAPLUS, CHEMCATS, TOXCENTER, USPATFULL
(*File contains numerically searchable property data)

Relative stereochemistry.

Double bond geometry as shown.



PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT

43 REFERENCES IN FILE CA (1907 TO DATE)

2 REFERENCES TO NON-SPECIFIC DERIVATIVES IN FILE CA

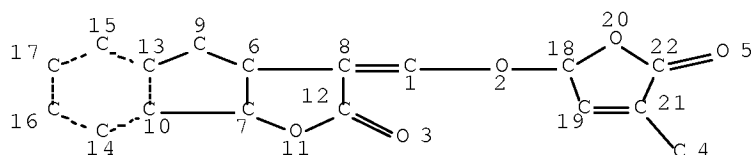
43 REFERENCES IN FILE CAPLUS (1907 TO DATE)

ED Entered STN: 16 Nov 1984

RESULTS FROM SEARCHES IN REGISTRY AND CAPLUS

NOTE: Since there were only two citations within the date limit, all 11 citations are provided. To see the two citations within the date limit, you may use Control-F and search for 2005:731269 and 2005:485320.

=> d que stat l21
L13 STR



NODE ATTRIBUTES:
DEFAULT MLEVEL IS ATOM
DEFAULT ECLEVEL IS LIMITED

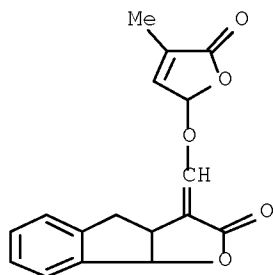
GRAPH ATTRIBUTES:
RING(S) ARE ISOLATED OR EMBEDDED
NUMBER OF NODES IS 22

STEREO ATTRIBUTES: NONE
L15 58 SEA FILE=REGISTRY SSS FUL L13
L17 64 SEA FILE=HCAPLUS ABB=ON L15
L19 11 SEA FILE=HCAPLUS ABB=ON L17 AND ?MYCORR?
L20 2 SEA FILE=HCAPLUS ABB=ON L19 AND (PRD<20050209 OR PD<20050209)
L21 11 SEA FILE=HCAPLUS ABB=ON L19 OR L20

=> d ibib abs hitstr l21 1-11

L21 ANSWER 1 OF 11 HCAPLUS COPYRIGHT 2010 ACS on STN
ACCESSION NUMBER: 2009:1433532 HCAPLUS Full-text
DOCUMENT NUMBER: 151:524547
TITLE: Strigolactones, host recognition signals for root parasitic plants and arbuscular mycorrhizal fungi, from Fabaceae plants. [Erratum to document cited in CA150:302456]
AUTHOR(S): Yoneyama, Kaori; Xie, Xiaonan; Sekimoto, Hitoshi; Takeuchi, Yasutomo; Ogasawara, Shin; Akiyama, Kohki; Hayashi, Hideo; Yoneyama, Koichi
CORPORATE SOURCE: Weed Science Center, Utsunomiya University, 350 Mine-machi, Utsunomiya, 321-8505, Japan
SOURCE: New Phytologist (2009), 182(1), 285
CODEN: NEPHAV; ISSN: 0028-646X
PUBLISHER: Wiley-Blackwell
DOCUMENT TYPE: Journal
LANGUAGE: English
AB The authors would like to note that their expts. produced the separation of sorgomol instead of orobanchol.
IT 80286-95-9 953389-72-5, Solanacol
RL: BSU (Biological study, unclassified); BIOL (Biological study) (strigolactones, host recognition signals for root parasitic plants and arbuscular mycorrhizal fungi, from Fabaceae plants (Erratum))
RN 80286-95-9 HCAPLUS
CN 2H-Indeno[1,2-b]furan-2-one, 3-[[[(2,5-dihydro-4-methyl-5-oxo-2-

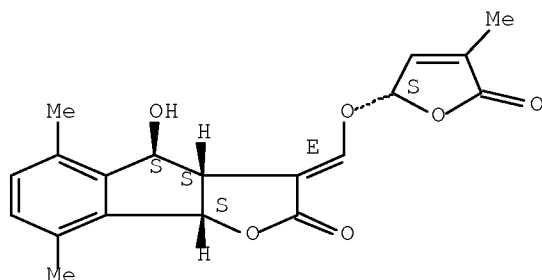
furanyl]oxy]methylene]-3,3a,4,8b-tetrahydro- (CA INDEX NAME)



RN 953389-72-5 HCAPLUS

CN 2H-Indeno[1,2-b]furan-2-one, 3-[[[(2S)-2,5-dihydro-4-methyl-5-oxo-2-furanyl]oxy]methylene]-3,3a,4,8b-tetrahydro-4-hydroxy-5,8-dimethyl-, (3E,3aS,4S,8bS)- (CA INDEX NAME)

Absolute stereochemistry.
Double bond geometry as shown.



L21 ANSWER 2 OF 11 HCAPLUS COPYRIGHT 2010 ACS on STN

ACCESSION NUMBER: 2008:1507018 HCAPLUS [Full-text](#)

DOCUMENT NUMBER: 150:29963

TITLE: Pesticidal composition comprising a strigolactone derivative and an insecticide

INVENTOR(S): Hungenberg, Heike; Thielert, Wolfgang; Vors, Jean-Pierre

PATENT ASSIGNEE(S): Bayer Cropscience SA, Fr.

SOURCE: PCT Int. Appl., 43pp.

CODEN: PIXXD2

DOCUMENT TYPE: Patent

LANGUAGE: English

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2008152091	A2	20081218	WO 2008-EP57382	20080612
WO 2008152091	A3	20091105		

W: AE, AG, AL, AM, AO, AT, AU, AZ, BA, BB, BG, BH, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DO, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, GT, HN, HR, HU, ID, IL, IN, IS, JP, KE, KG, KM, KN, KP, KR, KZ, LA, LC, LK, LR, LS, LT, LU, LY, MA, MD,

10/588,767

1/5/10

ME, MG, MK, MN, MW, MX, MY, MZ, NA, NG, NI, NO, NZ, OM, PG, PH,
 PL, PT, RO, RS, RU, SC, SD, SE, SG, SK, SL, SM, SV, SY, TJ, TM,
 TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, ZA, ZM, ZW
 RW: AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HR, HU,
 IE, IS, IT, LT, LU, LV, MC, MT, NL, NO, PL, PT, RO, SE, SI, SK,
 TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD,
 TG, BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW,
 AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AP, EA, EP, OA

AU 2008263920 A1 20081218 AU 2008-263920 20080612

CA 2685608 A1 20081218 CA 2008-2685608 20080612

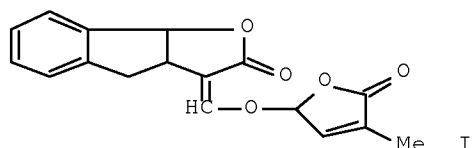
PRIORITY APPLN. INFO.:

EP 2007-356083 A 20070615

WO 2008-EP57382 W 20080612

OTHER SOURCE(S): MARPAT 150:29963

GI



AB A pesticidal composition comprises at least a strigolactone derivative (a) and an insecticide compound (b) in a weight ratio of (a)/(b) ranging from 1/1 to 1/1013; such a composition may include an addnl. insecticide and a fungicidal compound and may be supplemented with arbuscular mycorrhizal fungi. A method for curatively or preventively controlling insects involves applying an effective and nonphytotoxic amount of the inventive composition. The composition may be used also for controlling parasitic weed species. Thus, when cabbage leaves which were heavily infested by green peach aphid (*Myzus persicae*) were dipped into a I-imidacloprid mixture, the effect on insect mortality was synergistic.

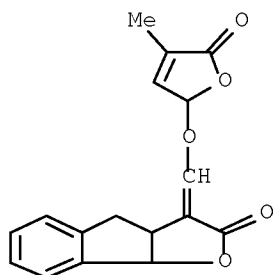
IT ~~80286-95-9D~~, mixts. containing ~~1092360-22-9~~

RL: AGR (Agricultural use); BSU (Biological study, unclassified); BIOL (Biological study); USES (Uses)

(synergistic pesticidal mixts. containing strigolactone derivative and insecticide, optionally with addnl. components)

RN 80286-95-9 HCAPLUS

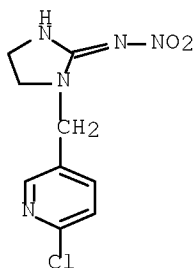
CN 2H-Indeno[1,2-b]furan-2-one, 3-[[(2,5-dihydro-4-methyl-5-oxo-2-furanyl)oxy]methylene]-3,3a,4,8b-tetrahydro- (CA INDEX NAME)



RN 1092360-22-9 HCAPLUS
 CN 2H-Indeno[1,2-b]furan-2-one, 3-[[(2,5-dihydro-4-methyl-5-oxo-2-furanyl)oxy]methylene]-3,3a,4,8b-tetrahydro-, mixt. with (2E)-1-[(6-chloro-3-pyridinyl)methyl]-N-nitro-2-imidazolidinimine (CA INDEX NAME)

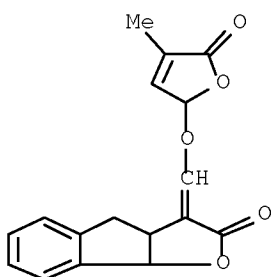
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CRN 138261-41-3
 CMF C9 H10 Cl N5 O2



CM 2

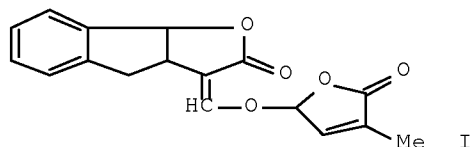
CRN 80286-95-9
 CMF C17 H14 O5



L21 ANSWER 3 OF 11 HCAPLUS COPYRIGHT 2010 ACS on STN
 ACCESSION NUMBER: 2008:1506931 HCAPLUS Full-text
 DOCUMENT NUMBER: 150:29914
 TITLE: Pesticidal composition comprising a strigolactone derivative and a fungicide compound
 INVENTOR(S): Suty-Heinze, Anne; Vors, Jean-Pierre
 PATENT ASSIGNEE(S): Bayer Cropscience SA, Fr.
 SOURCE: PCT Int. Appl., 41pp.
 CODEN: PIXXD2
 DOCUMENT TYPE: Patent
 LANGUAGE: English
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
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WO 2008152092	A2	20081218	WO 2008-EP57385	20080612
WO 2008152092	A3	20091105		
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RW:	AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HR, HU, IE, IS, IT, LT, LU, LV, MC, MT, NL, NO, PL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG, BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AP, EA, EP, OA			
AU 2008263921	A1	20081218	AU 2008-263921	20080612
CA 2685576	A1	20081218	CA 2008-2685576	20080612
PRIORITY APPLN. INFO.:			EP 2007-356084	A 20070615
			WO 2008-EP57385	W 20080612
OTHER SOURCE(S):	MARPAT 150:29914			
GI				



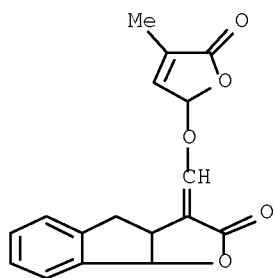
AB The invention relates to a pesticidal composition comprising a strigolactone derivative (a) and a fungicide compound (b) in a weight ratio of (a)/(b) ranging from 1/1 to 1/1014; such a composition may include an addnl. fungicidal compound and may be supplemented with arbuscular mycorrhizal fungi. A method for preventively or curatively controlling phytopathogenic fungi of crops with a composition according to the invention and use of this composition to control phytopathogenic fungi and parasitic weed species are claimed also. In a microtest performed with *Pyricularia oryzae*, a synergistic effect in controlling fungal growth was found with the mixture of trifloxystrobin 0.3 + I 0.00003 ppm.

IT 80286-95-9D, mixts. containing 1091630-42-0
 1091630-43-1 1091630-44-2 1091630-45-3
 1091630-46-4

RL: AGR (Agricultural use); BSU (Biological study, unclassified); BIOL (Biological study); USES (Uses)
 (synergistic pesticides for controlling phytopathogenic fungi and parasitic weed species)

RN 80286-95-9 HCAPLUS

CN 2H-Indeno[1,2-b]furan-2-one, 3-[[(2,5-dihydro-4-methyl-5-oxo-2-furanyl)oxy]methylene]-3,3a,4,8b-tetrahydro- (CA INDEX NAME)



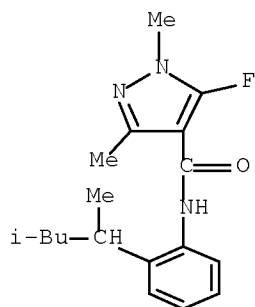
RN 1091630-42-0 HCAPLUS

CN 1H-Pyrazole-4-carboxamide, N-[2-(1,3-dimethylbutyl)phenyl]-5-fluoro-1,3-dimethyl-, mixt. with 3-[[[(2,5-dihydro-4-methyl-5-oxo-2-furanyl)oxy]methylene]-3,3a,4,8b-tetrahydro-2H-indeno[1,2-b]furan-2-one (CA INDEX NAME)

CM 1

CRN 494793-67-8

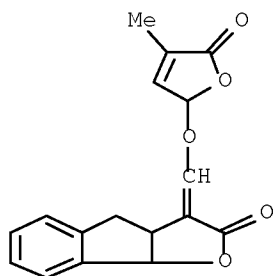
CMF C18 H24 F N3 O



CM 2

CRN 80286-95-9

CMF C17 H14 O5



RN 1091630-43-1 HCAPLUS

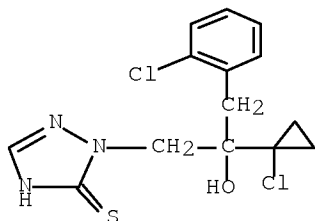
CN 2H-Indeno[1,2-b]furan-2-one, 3-[[[(2,5-dihydro-4-methyl-5-oxo-2-

furanyl)oxy)methylene]-3,3a,4,8b-tetrahydro-, mixt. with
 2-[2-(1-chlorocyclopropyl)-3-(2-chlorophenyl)-2-hydroxypropyl]-1,2-dihydro-
 3H-1,2,4-triazole-3-thione (CA INDEX NAME)

CM 1

CRN 178928-70-6

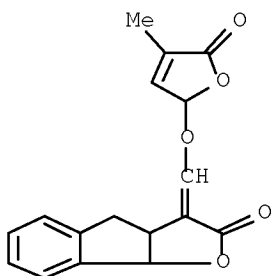
CMF C14 H15 Cl2 N3 O S



CM 2

CRN 80286-95-9

CMF C17 H14 O5



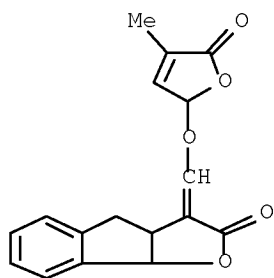
RN 1091630-44-2 HCAPLUS

CN Alanine, N-(2,6-dimethylphenyl)-N-(2-methoxyacetyl)-, methyl ester, mixt.
 with 3-[[2,5-dihydro-4-methyl-5-oxo-2-furanyl)oxy)methylene]-3,3a,4,8b-
 tetrahydro-2H-indeno[1,2-b]furan-2-one (CA INDEX NAME)

CM 1

CRN 80286-95-9

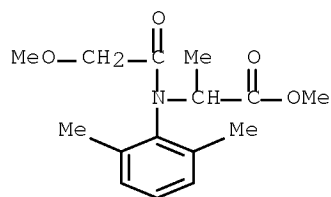
CMF C17 H14 O5



CM 2

CRN 57837-19-1

CMF C15 H21 N O4



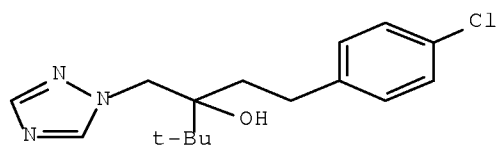
RN 1091630-45-3 HCAPLUS

CN 2H-Indeno[1,2-b]furan-2-one, 3-[[(2,5-dihydro-4-methyl-5-oxo-2-furanyl)oxy]methylene]-3,3a,4,8b-tetrahydro-, mixt. with α -[2-(4-chlorophenyl)ethyl]- α -(1,1-dimethylethyl)-1H-1,2,4-triazole-1-ethanol (CA INDEX NAME)

CM 1

CRN 107534-96-3

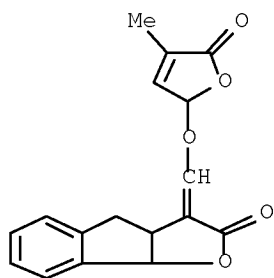
CMF C16 H22 Cl N3 O



CM 2

CRN 80286-95-9

CMF C17 H14 O5



RN 1091630-46-4 HCAPLUS

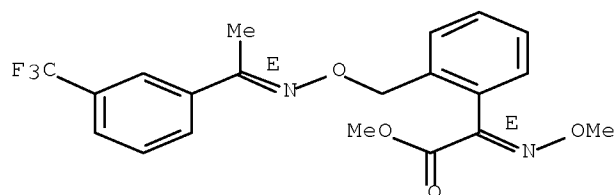
CN Benzeneacetic acid, α -(methoxyimino)-2-[[[(E)-[1-[3-(trifluoromethyl)phenyl]ethylidene]amino]oxy]methyl]-, methyl ester, (α E)-, mixt. with 3-[[[(2,5-dihydro-4-methyl-5-oxo-2-furanyl)oxy]methylene]-3,3a,4,8b-tetrahydro-2H-indeno[1,2-b]furan-2-one (CA INDEX NAME)

CM 1

CRN 141517-21-7

CMF C20 H19 F3 N2 O4

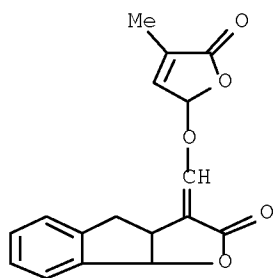
Double bond geometry as shown.



CM 2

CRN 80286-95-9

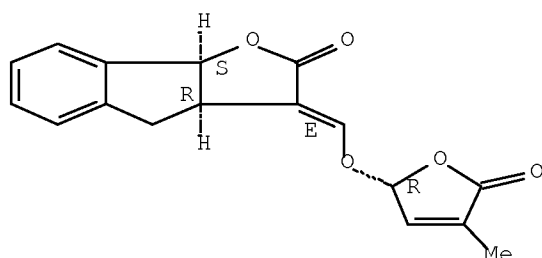
CMF C17 H14 O5



L21 ANSWER 4 OF 11 HCAPLUS COPYRIGHT 2010 ACS on STN
 ACCESSION NUMBER: 2008:1164909 HCAPLUS [Full-text](#)

DOCUMENT NUMBER: 149:397369
 TITLE: GR24, a synthetic analog of strigolactones, stimulates the mitosis and growth of the arbuscular mycorrhizal fungus *Gigaspora rosea* by boosting its energy metabolism
 AUTHOR(S): Besserer, Arnaud; Becard, Guillaume; Jauneau, Alain; Roux, Christophe; Sejalón-Delmas, Nathalie
 CORPORATE SOURCE: Plant Cell Surfaces and Signaling Laboratory, UMR5546 CNRS/University of Toulouse, Castanet-Tolosan, 31326, Fr.
 SOURCE: Plant Physiology (2008), 148(1), 402-413
 CODEN: PLPHAY; ISSN: 0032-0889
 PUBLISHER: American Society of Plant Biologists
 DOCUMENT TYPE: Journal
 LANGUAGE: English
 AB Arbuscular mycorrhizal (AM) fungi are obligate biotrophs that participate in a highly beneficial root symbiosis with 80% of land plants. Strigolactones are trace mols. in plant root exudates that are perceived by AM fungi at subnanomolar concns. Within just a few hours, they were shown to stimulate fungal mitochondria, spore germination, and branching of germinating hyphae. In this study we show that treatment of *Gigaspora rosea* with a strigolactone analog (GR24) causes a rapid increase in the NADH concentration, the NADH dehydrogenase activity, and the ATP content of the fungal cell. This fully and rapidly (within minutes) activated oxidative metabolism does not require new gene expression. Up-regulation of the genes involved in mitochondrial metabolism and hyphal growth, and stimulation of the fungal mitotic activity, take place several days after this initial boost to the cellular energy of the fungus. Such a rapid and powerful action of GR24 on *G. rosea* cells suggests that strigolactones are important plant signals involved in switching AM fungi toward full germination and a presymbiotic state.
 IT 76974-79-3, GR24
 RL: BSU (Biological study, unclassified); BIOL (Biological study)
 (GR24, synthetic analog of strigolactones, stimulates mitosis and growth of arbuscular mycorrhizal fungus *Gigaspora rosea* by boosting its energy metabolism)
 RN 76974-79-3 HCAPLUS
 CN 2H-Indeno[1,2-b]furan-2-one, 3-[[[(2R)-2,5-dihydro-4-methyl-5-oxo-2-furanyl]oxy]methylene]-3,3a,4,8b-tetrahydro-, (3E,3aR,8bS)-rel- (CA INDEX NAME)

Relative stereochemistry.
 Double bond geometry as shown.



OS.CITING REF COUNT: 4 THERE ARE 4 CAPLUS RECORDS THAT CITE THIS RECORD (4 CITINGS)
 REFERENCE COUNT: 68 THERE ARE 68 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L21 ANSWER 5 OF 11 HCAPLUS COPYRIGHT 2010 ACS on STN

ACCESSION NUMBER: 2008:947366 HCAPLUS Full-text

DOCUMENT NUMBER: 150:302456

TITLE: Strigolactones, host recognition signals for root parasitic plants and arbuscular mycorrhizal fungi, from Fabaceae plants

AUTHOR(S): Yoneyama, Kaori; Xie, Xiaonan; Sekimoto, Hitoshi; Takeuchi, Yasutomo; Ogasawara, Shin; Akiyama, Kohki; Hayashi, Hideo; Yoneyama, Koichi

CORPORATE SOURCE: Weed Science Center, Utsunomiya University, 350 Mine-machi, Utsunomiya, 321-8505, Japan

SOURCE: New Phytologist (2008), 179(2), 484-494

CODEN: NEPHAV; ISSN: 0028-646X

PUBLISHER: Blackwell Publishing Ltd.

DOCUMENT TYPE: Journal

LANGUAGE: English

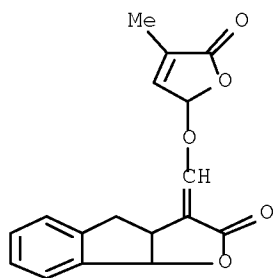
AB Both root parasitic plants and arbuscular mycorrhizal (AM) fungi take advantage of strigolactones, released from plant roots as signal mols. in the initial communication with host plants, in order to commence parasitism and mutualism, resp. In this study, strigolactones in root exudates from 12 Fabaceae plants, including hydroponically grown white lupin (*Lupinus albus*), a nonhost of AM fungi, were characterized by comparing retention times of germination stimulants on reverse-phase high-performance liquid chromatog. (HPLC) with those of stds. and by using tandem mass spectrometry (LC/MS/MS). All the plant species examined were found to exude known strigolactones, such as orobanchol, orobanchyl acetate, and 5-deoxystrigol, suggesting that these strigolactones are widely distributed in the Fabaceae. It should be noted that even the nonmycotrophic *L. albus* exuded orobanchol, orobanchyl acetate, 5-deoxystrigol, and novel germination stimulants. By contrast to the mycotrophic Fabaceae plant *Trifolium pratense*, in which phosphorus deficiency promoted strigolactone exudation, neither phosphorus nor nitrogen deficiency increased exudation of these strigolactones in *L. albus*. Therefore, the regulation of strigolactone production and/or exudation seems to be closely related to the nutrient acquisition strategy of the plants.

IT 80286-95-9 953389-72-5, Solanacol

RL: BSU (Biological study, unclassified); BIOL (Biological study) (strigolactones, host recognition signals for root parasitic plants and arbuscular mycorrhizal fungi, from Fabaceae plants)

RN 80286-95-9 HCAPLUS

CN 2H-Indeno[1,2-b]furan-2-one, 3-[[[(2S)-2,5-dihydro-4-methyl-5-oxo-2-furanyl]oxy]methylene]-3,3a,4,8b-tetrahydro- (CA INDEX NAME)

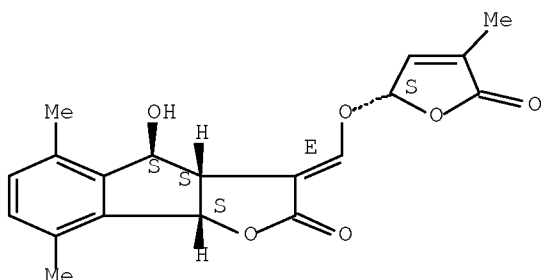


RN 953389-72-5 HCAPLUS

CN 2H-Indeno[1,2-b]furan-2-one, 3-[[[(2S)-2,5-dihydro-4-methyl-5-oxo-2-furanyl]oxy]methylene]-3,3a,4,8b-tetrahydro-4-hydroxy-5,8-dimethyl-,

(3E, 3aS, 4S, 8bS)- (CA INDEX NAME)

Absolute stereochemistry.
Double bond geometry as shown.



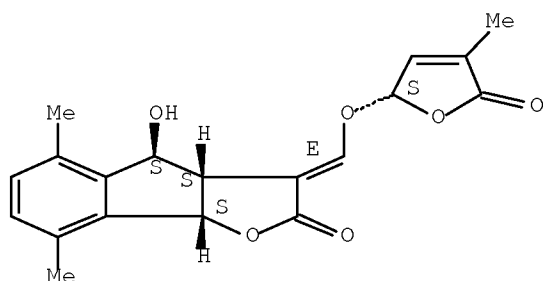
OS.CITING REF COUNT: 10 THERE ARE 10 CAPLUS RECORDS THAT CITE THIS RECORD (10 CITINGS)
REFERENCE COUNT: 34 THERE ARE 34 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L21 ANSWER 6 OF 11 HCAPLUS COPYRIGHT 2010 ACS on STN
ACCESSION NUMBER: 2008:848382 HCAPLUS Full-text
DOCUMENT NUMBER: 149:374003
TITLE: Biosynthetic considerations could assist the structure elucidation of host plant-produced rhizosphere signalling compounds (strigolactones) for arbuscular mycorrhizal fungi and parasitic plants
AUTHOR(S): Rani, Kumkum; Zwanenburg, Binne; Sugimoto, Yukihiro; Yoneyama, Koichi; Bouwmeester, Harro J.
CORPORATE SOURCE: Plant Research International, Wageningen, 6700 AA, Neth.
SOURCE: Plant Physiology and Biochemistry (Issy les Moulineaux, France) (2008), 46(7), 617-626
CODEN: PPBIEX; ISSN: 0981-9428
PUBLISHER: Elsevier Masson SAS
DOCUMENT TYPE: Journal
LANGUAGE: English

AB Parasitic plants cause devastating losses to crop yields in several parts of the world. The root parasites, *Striga* and *Orobancha* species, use chemical signalling mols. that are exuded by the roots of plants in extremely low concns., and that can induce germination of the seeds of these parasites, to detect the vicinity of a suitable host. The majority of the so far identified germination stimulants belong to the strigolactones. It was recently discovered that this class of compds. can also induce hyphal branching in the symbiotic arbuscular mycorrhizal fungi, a process involved in root colonization. The elucidation of the structure of new strigolactones is hindered by their low abundance and instability. Here, the authors have used existing knowledge on the structure of strigolactones and combined it with recently obtained insight in the biosynthetic origin of these signalling compds. This enabled them to postulate structures for strigolactones that have been isolated but for which so far the structure has not been elucidated, but also to propose structures of strigolactones that may be discovered in the future. Considering the strongly increased importance of the strigolactones, the authors expect that more groups will look for these compds. and also in systems so far not exploited. This could lead to the discovery of new strigolactones for which we expect the present biogenetic considerations will facilitate identification and structure elucidation.

IT 953389-72-5, Solanacol
 RL: BSU (Biological study, unclassified); PRP (Properties); BIOL
 (Biological study)
 (structure elucidation of host plant-produced rhizosphere signalling
 strigolactones for arbuscular ~~mycorrhizal~~ fungi and parasitic
 plants)
 RN 953389-72-5 HCAPLUS
 CN 2H-Indeno[1,2-b]furan-2-one, 3-[[[(2S)-2,5-dihydro-4-methyl-5-oxo-2-
 furanyl]oxy]methylene]-3,3a,4,8b-tetrahydro-4-hydroxy-5,8-dimethyl-,
 (3E,3aS,4S,8bS)- (CA INDEX NAME)

Absolute stereochemistry.
 Double bond geometry as shown.



OS.CITING REF COUNT: 9 THERE ARE 9 CAPLUS RECORDS THAT CITE THIS RECORD
 (9 CITINGS)
 REFERENCE COUNT: 54 THERE ARE 54 CITED REFERENCES AVAILABLE FOR THIS
 RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L21 ANSWER 7 OF 11 HCAPLUS COPYRIGHT 2010 ACS on STN

ACCESSION NUMBER: 2008:756985 HCAPLUS [Full-text](#)

DOCUMENT NUMBER: 150:117548

TITLE: Tomato strigolactones are derived from carotenoids and
 their biosynthesis is promoted by phosphate starvation
 AUTHOR(S): Lopez-Raez, Juan Antonio; Charnikhova, Tatsiana;
 Gomez-Roldan, Victoria; Matusova, Radoslava; Kohlen,
 Wouter; De Vos, Ric; Verstappen, Francel; Puech-Pages,
 Virginie; Becard, Guillaume; Mulder, Patrick;
 Bouwmeester, Harro

CORPORATE SOURCE: Plant Research International, Wageningen, 6700 AA,
 Neth.

SOURCE: New Phytologist (2008), 178(4), 863-874

CODEN: NEPHAV; ISSN: 0028-646X

PUBLISHER: Blackwell Publishing Ltd.

DOCUMENT TYPE: Journal

LANGUAGE: English

AB Strigolactones are rhizosphere signalling compds. that mediate host location
 in arbuscular ~~mycorrhizal~~ (AM) fungi and parasitic plants. Here, the
 regulation of the biosynthesis of strigolactones is studied in tomato
 (Solanum lycopersicum). Strigolactone production under phosphate starvation,
 in the presence of the carotenoid biosynthesis inhibitor fluridone and in the
 abscisic acid (ABA) mutant notabilis were assessed using a germination
 bioassay with seeds of Orobanche ramosa; a hyphal branching assay with
 Gigaspora spp; and by liquid chromatog. coupled to tandem mass spectrometry
 (LC-MS/MS) anal. The root exudates of tomato cv. MoneyMaker induced O. ramosa
 seed germination and hyphal branching in AM fungi. Phosphate starvation
 markedly increased, and fluridone strongly decreased, this activity. Exudates

of notabilis induced approx. 40% less germination than the wild-type. The LC-MS/MS anal. confirmed that the biol. activity and changes therein were due to the presence of several strigolactones; orobanchol, solanacol and two or three dihydro-orobanchol isomers. These results show that the AM branching factors and parasitic plant germination stimulants in tomato root exudate are strigolactones and that they are biosynthetically derived from carotenoids. The dual activity of these signalling compds. in attracting beneficial AM fungi and detrimental parasitic plants is further strengthened by environmental conditions such as phosphate availability.

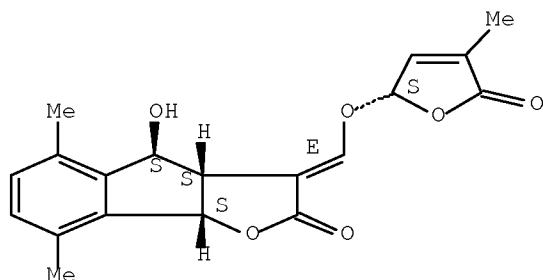
IT 953389-72-5, Solanacol

RL: BSU (Biological study, unclassified); BIOL (Biological study)
(tomato strigolactones are derived from carotenoids and their biosynthesis is promoted by phosphate starvation)

RN 953389-72-5 HCAPLUS

CN 2H-Indeno[1,2-b]furan-2-one, 3-[[[(2S)-2,5-dihydro-4-methyl-5-oxo-2-furanyl]oxy]methylene]-3,3a,4,8b-tetrahydro-4-hydroxy-5,8-dimethyl-, (3E,3aS,4S,8bS)- (CA INDEX NAME)

Absolute stereochemistry.
Double bond geometry as shown.



OS.CITING REF COUNT: 17 THERE ARE 17 CAPLUS RECORDS THAT CITE THIS RECORD (17 CITINGS)
REFERENCE COUNT: 46 THERE ARE 46 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L21 ANSWER 8 OF 11 HCAPLUS COPYRIGHT 2010 ACS on STN

ACCESSION NUMBER: 2006:977792 HCAPLUS [Full-text](#)

DOCUMENT NUMBER: 145:331794

TITLE: Making plants resistant to parasitic weeds as well as strigolactone-overproducing trap-crops by modulating carotenoid catabolism to strigolactones

INVENTOR(S): Bouwmeester, Hendrik Jan; Matsusova, Radoslava; Sun, Zhongkui; Beale, Michael H.; Rani, Kumkum

PATENT ASSIGNEE(S): Plant Research International B.V., Neth.; Rothamsted Research Limited

SOURCE: PCT Int. Appl., 85pp.

CODEN: PIXXD2

DOCUMENT TYPE: Patent

LANGUAGE: English

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2006098626	A2	20060921	WO 2006-NL50059	20060320
WO 2006098626	A3	20070510		

10/588,767

1/5/10

W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KM, KN, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, LY, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NG, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SM, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW

RW: AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IS, IT, LT, LU, LV, MC, NL, PL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG, BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AP, EA, EP, OA

EP 1859044 A2 20071128 EP 2006-716692 20060320

R: AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IS, IT, LI, LT, LU, LV, MC, NL, PL, PT, RO, SE, SI, SK, TR, AL, BA, HR, MK, YU

ZA 2007008103 A 20081126 ZA 2007-8103 20070920

IN 2007DN07820 A 20071109 IN 2007-DN7820 20071010

US 20090178158 A1 20090709 US 2008-908904 20080129

PRIORITY APPLN. INFO.: EP 2005-102164 A 20050318

WO 2006-NL50059 W 20060320

ASSIGNMENT HISTORY FOR US PATENT AVAILABLE IN LSUS DISPLAY FORMAT

AB The invention provides methods for making plants having enhanced resistance to root-parasitic weeds, such of the genera *Striga* and *Orobancha*. The present inventors found that the strigolactone germination stimulants of *S. hermonthica* present in the root exudates of maize, cowpea and sorghum are derived from the carotenoid biosynthetic pathway. Further, it was found that this also holds for the germination stimulants of *O. crenata* in the root exudate of cowpea. This finding is used to create crop species that do not induce germination of parasitic plant seeds anymore and therefore are resistant to parasitic plants. Provided is a method to use specific herbicides and/or ~~mycorrhiza~~ to control parasitic plants through their effect on the host plant. Also provided are strigolactone overproducing trap and catch crops. Also, recombinant plants and plant cells, tissues and organs are provided. Also provided are protein and cDNA sequences for enzymes from carotenoid biosynthetic pathway related to strigolactone production

IT 76974-79-3P, GR24

RL: BPN (Biosynthetic preparation); BSU (Biological study, unclassified); BIOL (Biological study); PREP (Preparation)

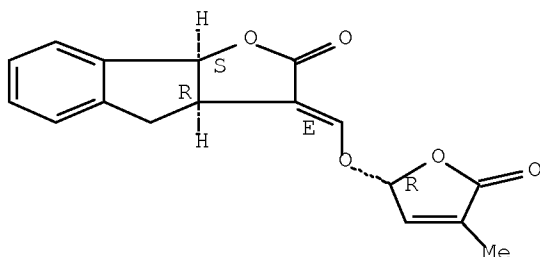
(making plants resistant to parasitic weeds as well as strigolactone-overproducing trap-crops by modulating carotenoid catabolism to strigolactones)

RN 76974-79-3 HCAPLUS

CN 2H-Indeno[1,2-b]furan-2-one, 3-[[[(2R)-2,5-dihydro-4-methyl-5-oxo-2-furanyl]oxy]methylene]-3,3a,4,8b-tetrahydro-, (3E,3aR,8bS)-rel- (CA INDEX NAME)

Relative stereochemistry.

Double bond geometry as shown.



L21 ANSWER 9 OF 11 HCAPLUS COPYRIGHT 2010 ACS on STN

ACCESSION NUMBER: 2006:734002 HCAPLUS Full-text

DOCUMENT NUMBER: 145:331427

TITLE: Strigolactones stimulate arbuscular

mycorrhizal fungi by activating mitochondria

AUTHOR(S): Besserer, Arnaud; Puech-Pages, Virginie; Kiefer, Patrick; Gomez-Roldan, Victoria; Jauneau, Alain; Roy, Sebastien; Portais, Jean-Charles; Roux, Christophe; Becard, Guillaume; Sejalon-Delmas, Nathalie

CORPORATE SOURCE: UMR 5546, Pole de Biotechnologies Vegetales, Castanet-Tolosan, Fr.

SOURCE: PLoS Biology (2006), 4(7), 1239-1247

CODEN: PBLIBG; ISSN: 1545-7885

URL: http://biology.plosjournals.org/archive/1545-7885/4/7/pdf/10.1371_1545-7885_4_7_complete.pdf

PUBLISHER: Public Library of Science

DOCUMENT TYPE: Journal; (online computer file)

LANGUAGE: English

AB The association of arbuscular *mycorrhizal* (AM) fungi with plant roots is the oldest and ecol. most important symbiotic relationship between higher plants and microorganisms, yet the mechanism by which these fungi detect the presence of a plant host is poorly understood. Previous studies have shown that roots secrete a branching factor (BF) that strongly stimulates branching of hyphae during germination of the spores of AM fungi. In the BF of *Lotus*, a strigolactone was found to be the active mol. Strigolactones are known as germination stimulants of the parasitic plants *Striga* and *Orobanch*. In this paper, we show that the BF of a monocotyledonous plant, *Sorghum*, also contains a strigolactone. Strigolactones strongly and rapidly stimulated cell proliferation of the AM fungus *Gigaspora rosea* at concns. as low as 10⁻¹³ M. This effect was not found with other sesquiterpene lactones known as germination stimulants of parasitic weeds. Within 1 h of treatment, the d. of mitochondria in the fungal cells increased, and their shape and movement changed dramatically. Strigolactones stimulated spore germination of two other phylogenetically distant AM fungi, *Glomus intraradices* and *G. claroideum*. This was also associated with a rapid increase of mitochondrial d. and respiration as shown with *G. intraradices*. We conclude that strigolactones are important rhizospheric plant signals involved in stimulating both the pre-symbiotic growth of AM fungi and the germination of parasitic plants.

IT 76974-79-3, GR24

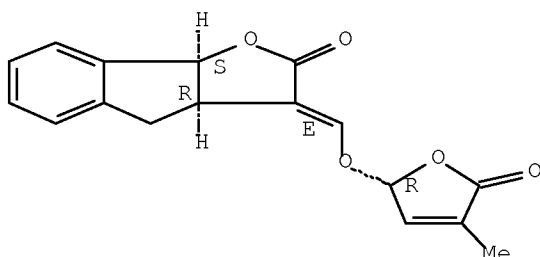
RL: BSU (Biological study, unclassified); BIOL (Biological study)
(plant strigolactones stimulate arbuscular *mycorrhizal* fungi
by activating mitochondria)

RN 76974-79-3 HCAPLUS

CN 2H-Indeno[1,2-b]furan-2-one, 3-[[[(2R)-2,5-dihydro-4-methyl-5-oxo-2-furanyl]oxy]methylene]-3,3a,4,8b-tetrahydro-, (3E,3aR,8bS)-rel- (CA INDEX

NAME)

Relative stereochemistry.
Double bond geometry as shown.



OS.CITING REF COUNT: 22 THERE ARE 22 CAPLUS RECORDS THAT CITE THIS RECORD (22 CITINGS)
REFERENCE COUNT: 40 THERE ARE 40 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L21 ANSWER 10 OF 11 HCAPLUS COPYRIGHT 2010 ACS on STN
ACCESSION NUMBER: 2005:731269 HCAPLUS Full-text
DOCUMENT NUMBER: 143:193449
TITLE: Strigolactones as development stimulants for arbuscular mycorrhiza
INVENTOR(S): Becard, Guillaume; Roux, Christophe; Sejalon, Delmas Nathalie; Puech, Virginie; Roy, Sebastien
PATENT ASSIGNEE(S): Universite Paul Sabatier Toulouse III, Fr.; Centre National De La Recherche Scientifique CNRS
SOURCE: Fr. Demande, 27 pp.
CODEN: FRXXBL
DOCUMENT TYPE: Patent
LANGUAGE: French
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
FR 2865897	A1	20050812	FR 2004-1282	20040210
FR 2865897	B1	20060609		
CA 2555362	A1	20050825	CA 2005-2555362	20050209 <--
WO 2005077177	A2	20050825	WO 2005-FR284	20050209 <--
WO 2005077177	A3	20051208		
W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW, SM				
RW: BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IS, IT, LT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG				
EP 1713333	A2	20061025	EP 2005-717585	20050209 <--
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10/588,767

1/5/10

US 20080318773 A1 20081225 US 2006-588767 20060808 <--
 PRIORITY APPLN. INFO.: FR 2004-1282 A 20040210 <--
 WO 2005-FR284 W 20050209

ASSIGNMENT HISTORY FOR US PATENT AVAILABLE IN LSUS DISPLAY FORMAT

AB Strigolactones stimulate the growth and/or development of the arbuscular mycorrhiza (AM). These compds. are for example natural strigol, alectrol, sorgolactone, orobanchol, or their synthetic analogs GR7, GR24, Nijmegen-1, demethylsorgolactone. The invention allows for advanced techniques of mycorrhization aiming at optimizing inoculum production, the use of AM in agriculture, and intensification of the symbiotic interaction between AM and crops.

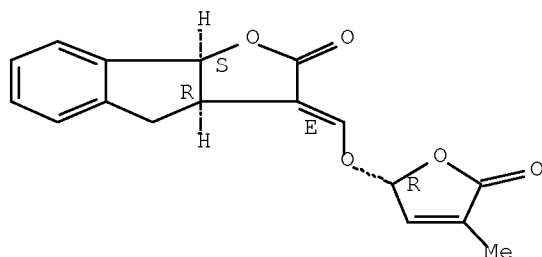
IT 76974-79-3, GR24

RL: AGR (Agricultural use); BIOL (Biological study); USES (Uses)
 (strigolactones as development stimulants for arbuscular mycorrhiza)

RN 76974-79-3 HCAPLUS

CN 2H-Indeno[1,2-b]furan-2-one, 3-[[[(2R)-2,5-dihydro-4-methyl-5-oxo-2-furanyl]oxy]methylene]-3,3a,4,8b-tetrahydro-, (3E,3aR,8bS)-rel- (CA INDEX NAME)

Relative stereochemistry.
 Double bond geometry as shown.



OS.CITING REF COUNT: 2 THERE ARE 2 CAPLUS RECORDS THAT CITE THIS RECORD (2 CITINGS)
 REFERENCE COUNT: 6 THERE ARE 6 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L21 ANSWER 11 OF 11 HCAPLUS COPYRIGHT 2010 ACS on STN

ACCESSION NUMBER: 2005:485320 HCAPLUS Full-text

DOCUMENT NUMBER: 143:169534

TITLE: Plant sesquiterpenes induce hyphal branching in arbuscular mycorrhizal fungi

AUTHOR(S): Akiyama, Kohki; Matsuzaki, Ken-ichi; Hayashi, Hideo

CORPORATE SOURCE: Division of Applied Biological Chemistry, Graduate School of Agriculture and Biological Sciences, Osaka Prefecture University, Sakai, Osaka, 599-8531, Japan

SOURCE: Nature (London, United Kingdom) (2005), 435(7043), 824-827

CODEN: NATUAS; ISSN: 0028-0836

PUBLISHER: Nature Publishing Group

DOCUMENT TYPE: Journal

LANGUAGE: English

AB Arbuscular mycorrhizal (AM) fungi form mutualistic, symbiotic assocns. with the roots of more than 80% of land plants. The fungi are incapable of completing their life cycle in the absence of a host root. Their spores can germinate and grow in the absence of a host, but their hyphal growth is very

limited. Little is known about the mol. mechanisms that govern signalling and recognition between AM fungi and their host plants. In one of the first stages of host recognition, the hyphae of AM fungi show extensive branching in the vicinity of host roots before formation of the appressorium, the structure used to penetrate the plant root. Host roots are known to release signalling mols. that trigger hyphal branching, but these branching factors have not been isolated. Here we have isolated a branching factor from the root exudates of *Lotus japonicus* and used spectroscopic anal. and chemical synthesis to identify it as a strigolactone, 5-deoxy-strigol. Strigolactones are a group of sesquiterpene lactones, previously isolated as seed-germination stimulants for the parasitic weeds *Striga* and *Orobanche*. The natural strigolactones 5-deoxy-strigol, sorgolactone and strigol, and a synthetic analog, GR24, induced extensive hyphal branching in germinating spores of the AM fungus *Gigaspora margarita* at very low concns.

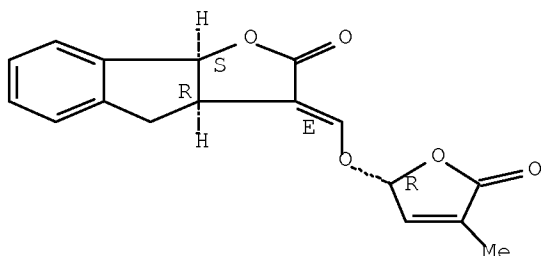
IT 76974-79-3, GR24

RL: BSU (Biological study, unclassified); BIOL (Biological study)
(plant sesquiterpenes induce hyphal branching in arbuscular
mycorrhizal fungi)

RN 76974-79-3 HCAPLUS

CN 2H-Indeno[1,2-b]furan-2-one, 3-[[[(2R)-2,5-dihydro-4-methyl-5-oxo-2-furanyl]oxy]methylene]-3,3a,4,8b-tetrahydro-, (3E,3aR,8bS)-rel- (CA INDEX NAME)

Relative stereochemistry.
Double bond geometry as shown.



OS.CITING REF COUNT:	172	THERE ARE 172 CAPLUS RECORDS THAT CITE THIS RECORD (172 CITINGS)
REFERENCE COUNT:	30	THERE ARE 30 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

SEARCH HISTORY

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(FILE 'HOME' ENTERED AT 14:15:07 ON 05 JAN 2010)

FILE 'HCAPLUS' ENTERED AT 14:18:22 ON 05 JAN 2010

E BECARD GUILLAUME/AU

L1 44 SEA ABB=ON ("BECARD G"/AU OR "BECARD GUILLAUME"/AU)

E ROUX CHRISTOPHE/AU

L2 25 SEA ABB=ON ("ROUX CHRISTOPHE"/AU OR "ROUX CHRISTOPHE LE"/AU)

E SEJALON DELMAS NATHALIE/AU

L3 11 SEA ABB=ON ("SEJALON DELMAS N"/AU OR "SEJALON DELMAS NATHALIE"/AU)

E PUECH VIRGINIE/AU

L4 73 SEA ABB=ON ("PUECH V"/AU OR "PUECH VINCENT"/AU OR "PUECH VIRGINIE"/AU)

E ROY SEBASTIEN/AU

L5 27 SEA ABB=ON ("ROY SEBASTIAN"/AU OR "ROY SEBASTIEN"/AU OR "ROY SEBASTIEN A B"/AU OR "ROY SEBASTIEN N"/AU)

L6 1 SEA ABB=ON L1 AND L2 AND L3 AND L4 AND L5

SELECT RN L6 1-1

FILE 'REGISTRY' ENTERED AT 14:20:00 ON 05 JAN 2010

L7 8 SEA ABB=ON (11017-56-4/BI OR 141262-39-7/BI OR 143572-84-3/BI OR 159155-03-0/BI OR 185222-53-1/BI OR 220493-65-2/BI OR 76974-79-3/BI OR 77035-56-4/BI)

FILE 'HCAPLUS' ENTERED AT 14:20:05 ON 05 JAN 2010

L8 1 SEA ABB=ON L6 AND L7

FILE 'REGISTRY' ENTERED AT 14:20:45 ON 05 JAN 2010

E MYCORRHIZA/CN

L9 4 SEA ABB=ON ("MYCORRHIZIN A"/CN OR "MYCORRHIZIN A ACETATE"/CN OR "MYCORRHIZIN B 1"/CN OR "MYCORRHIZIN B 2"/CN)

E GIGAAPORA ROSEA/CN

FILE 'HCAPLUS' ENTERED AT 14:22:09 ON 05 JAN 2010

L10 8656 SEA ABB=ON L9 OR ?MYCORRHIZ?

L11 0 SEA ABB=ON L10 AND ?GIGAAPORA?(W)?ROSEA?

FILE 'REGISTRY' ENTERED AT 14:23:55 ON 05 JAN 2010

L12 1 SEA ABB=ON 76974-79-3/RN

L13 STRUCTURE SEAR

L14 2 SEA SSS SAM L13

L15 58 SEA SSS FUL L13

FILE 'HCAPLUS' ENTERED AT 14:24:19 ON 05 JAN 2010

L16 0 SEA ABB=ON L10 AND L14

L17 64 SEA ABB=ON L15

L18 0 SEA ABB=ON L17 AND ?GIGAAPORA?

L19 11 SEA ABB=ON L17 AND ?MYCORR?

L20 2 SEA ABB=ON L19 AND (PRD<20050209 OR PD<20050209)

FILE 'HCAPLUS' ENTERED AT 14:27:49 ON 05 JAN 2010

L21 11 SEA ABB=ON L19 OR L20

FILE HOME

FILE HCAPLUS

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FILE COVERS 1907 - 5 Jan 2010 VOL 152 ISS 2
FILE LAST UPDATED: 4 Jan 2010 (20100104/ED)
REVISED CLASS FIELDS (/NCL) LAST RELOADED: Oct 2009
USPTO MANUAL OF CLASSIFICATIONS THESAURUS ISSUE DATE: Oct 2009

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Property values tagged with IC are from the ZIC/VINITI data file provided by InfoChem.

STRUCTURE FILE UPDATES: 4 JAN 2010 HIGHEST RN 1200403-72-0
DICTIONARY FILE UPDATES: 4 JAN 2010 HIGHEST RN 1200403-72-0

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FILE CROPB
FILE LAST LOADED: 11 NOV 94 <941111/UP>

<<< CROPB IS A STATIC FILE WITH NO UPDATES >>>

FILE CROPU
FILE LAST UPDATED: 5 JAN 2004 <20040105/UP>
FILE COVERS 1985 TO 2003

<<< CROPU IS A STATIC FILE WITH NO UPDATES >>>

FILE ESBIODBASE
FILE LAST UPDATED: 4 JAN 2010 <20100104/UP>
FILE COVERS 1994 TO DATE.

>>> SIMULTANEOUS LEFT AND RIGHT TRUNCATION IS AVAILABLE IN THE BASIC
INDEX (/BI), ABSTRACT (/AB), CLASSIFICATION CODE (/CC), SUPPLEMENTARY
TERM (/ST), AND TITLE (/TI) FIELDS <<<

FILE GENBANK

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FILE IFIPAT
FILE COVERS 1950 TO PATENT PUBLICATION DATE: 31 Dec 2009 (20091231/PD)
FILE LAST UPDATED: 1 Jan 2010 (20100101/ED)
HIGHEST GRANTED PATENT NUMBER: US7640597
HIGHEST APPLICATION PUBLICATION NUMBER: US20090328267
UNITERM INDEXING IS AVAILABLE IN THE IFIUDB FILE
UNITERM INDEXING LAST UPDATED: 15 Dec 2009 (20091215/UP)
INDEXING CURRENT THROUGH PAT PUB DATE: 24 Nov 2009 (20091124/PD)

The IFI Patent Database (IFIPAT), IFI Comprehensive Database (IFICDB),
and IFI Uniterm Database (IFIUDB), have been reloaded on STN. Search
and display enhancements in this reload include the addition of the

DISPLAY SCAN format to help evaluate usefulness of answer sets, indexing for more than 70,000 additional published applications, and enhanced indexing with new terms for various green technology areas such as biofuels and biodegradable polymers.

FILE NTIS

FILE LAST UPDATED: 4 JAN 2010 <20100104/UP>

FILE COVERS 1964 TO DATE.

<<< SIMULTANEOUS LEFT AND RIGHT TRUNCATION AVAILABLE IN
THE BASIC INDEX (/BI) >>>

FILE SCISEARCH

FILE COVERS 1974 TO 30 Dec 2009 (20091230/ED)

SCISEARCH has been reloaded, see HELP RLOAD for details.